IN THE CLAIMS:

1. (Currently Amended) A liquid jetting apparatus to jet a droplet of a charged liquid solution onto a base material, comprising:

a liquid jetting head comprising a nozzle to jet the droplet from an edge portion, an inside diameter of the edge portion of the nozzle being not more than 30~~[μm]~~μm;

a liquid solution supplying section to supply the liquid solution into the nozzle;

a jetting voltage applying section to apply a jetting voltage to the liquid solution in the nozzle; and

a convex meniscus forming section to form a state where the liquid solution in the nozzle protrudes from the nozzle edge portion.

2. (Original) The liquid jetting apparatus of claim 1, further comprising an operation control section to control an application of a driving voltage for driving the convex meniscus forming section and an application of the jetting voltage by the jetting voltage applying section,

wherein the operation control section comprises a first jetting control unit to control the application of the driving voltage of the convex meniscus forming section when jetting a droplet while controlling the application of the jetting voltage by the jetting voltage applying section.

3. (Currently Amended) ~~The liquid jetting apparatus of claim 1, further comprising an operation control section to control a driving of the convex meniscus forming section and a voltage application by the jetting voltage applying section,~~

~~wherein the operation control section comprises a second jetting control unit to perform a protruding operation of the liquid solution by the convex meniscus forming section and an application of the jetting voltage in synchronization with each other.~~

The liquid jetting apparatus of claim 2, wherein the operation control section comprises a liquid stabilization control section to perform an operation control to draw a liquid level at the nozzle edge portion to an inside after the protruding operation of the liquid solution and the application of the jetting voltage.

4. (Currently Amended) ~~The liquid jetting apparatus of claim 2 or 3, wherein the operation control section comprises a liquid stabilization control section to perform an operation control to draw a liquid level at the nozzle edge portion to an inside after the~~

~~protruding operation of the liquid solution and the application of the jetting voltage.~~The liquid jetting apparatus of claim 1, further comprising an operation control section to control a driving of the convex meniscus forming section and a voltage application by the jetting voltage applying section,

wherein the operation control section comprises a second jetting control unit to perform a protruding operation of the liquid solution by the convex meniscus forming section and an application of the jetting voltage in synchronization with each other.

5. (Currently Amended) ~~The liquid jetting apparatus of any one of claims 1 to 4, wherein the convex meniscus forming section comprises a piezo element to change a capacity in the nozzle.~~The liquid jetting apparatus of claim 4, wherein the operation control section comprises a liquid stabilization control section to perform an operation control to draw a liquid level at the nozzle edge portion to an inside after the protruding operation of the liquid solution and the application of the jetting voltage.

6. (Currently Amended) The liquid jetting apparatus of ~~any one of claims 1 to 3~~claim 1, wherein the convex meniscus forming section comprises a ~~heater to generate an air bubble in the liquid solution in the nozzle~~piezo element to change a capacity in the nozzle.

7. (Currently Amended) ~~The liquid jetting apparatus of any one of claims 1 to 6, wherein a jetting voltage V by the jetting voltage applying section satisfies the following equation (1);~~

$$h\sqrt{\frac{\gamma\pi}{\varepsilon_0 d}} > V > \sqrt{\frac{\gamma k d}{2\varepsilon_0}} \qquad (1)$$

~~where, $\gamma$: surface tension of liquid solution [N/m], $\epsilon_0$: electric constant [F/m], d: nozzle diameter [m], h: distance between nozzle and base material [m], k: proportionality constant dependent on nozzle shape (1.5<k<8.5).~~The liquid jetting apparatus of claim 1, wherein the convex meniscus forming section comprises a heater to generate an air bubble in the liquid solution in the nozzle.

8. (Currently Amended) ~~The liquid jetting apparatus of any one of claims 1 to 7, wherein the nozzle is formed with a material having an insulating property.~~The liquid

jetting apparatus of claim 1, wherein a jetting voltage V by the jetting voltage applying section satisfies the following equation (1);

$$h\sqrt{\frac{\gamma\pi}{\varepsilon_0 d}} > V > \sqrt{\frac{\gamma k d}{2\varepsilon_0}} \qquad (1)$$

where, $\gamma$: surface tension of liquid solution [N/m], $\epsilon_0$: electric constant [F/m], d: nozzle diameter [m], h: distance between nozzle and base material [m], k: proportionality constant dependent on nozzle shape (1.5<k<8.5).

9. (Currently Amended) The liquid jetting apparatus of ~~any one of claims 1 to 7~~claim 1, wherein ~~at least the edge portion of~~ the nozzle is formed with a material having an insulating property.

10. (Currently Amended) The liquid jetting apparatus of ~~any one of claims 1 to 9~~claim 1, wherein at least the edge portion ~~the inside diameter~~ of the nozzle is ~~less than 20[μm]~~formed with a material having an insulating property.

11. (Currently Amended) The liquid jetting apparatus of claim ~~10~~1, wherein the inside diameter of the nozzle is ~~not more~~ less than ~~10[μm]~~20μm.

12. (Currently Amended) The liquid jetting apparatus of claim 11, wherein the inside diameter of the nozzle is not more than ~~8[μm]~~10μm.

13. (Currently Amended) The liquid jetting apparatus of claim 12, wherein the inside diameter of the nozzle is not more than ~~4[μm]~~8μm.

14. (New) The liquid jetting apparatus of claim 13, wherein the inside diameter of the nozzle is not more than 4μm.